

CLAIMS

1. An illuminating surface that, when connected to a power source, emits light in the presence of an object touching or in close proximity to the surface, which surface  
5 comprises:  
an array of sensors for detecting the presence of the object;  
an array of light sources, each sensor being associated with at least one light source such that, when one of said sensors detects the presence of the object, its associated light source is illuminated; and  
10 a circuit for controlling the illumination of each light source such that it remains illuminated for a time after its associated sensor has ceased to detect the presence of the object;  
wherein each of the sensors is connected with at least one adjacent light source that is illuminated when the sensor detects the presence of an object, thereby causing an area of  
15 the surface to emit light that corresponds to and is larger than the shape of the object.
2. An illuminating surface as claimed in claim 1, which includes an array of circuits, each circuit comprising at least one sensor and at least one light source.
- 20 3. An illuminating surface as claimed in claim 2, wherein each circuit has its own power supply and is not under the control of a central processor for the surface.
4. An illuminating surface as claimed in claim 2 or claim 3, wherein adjacent circuits are connected in such a way that, when the sensor of one circuit (the "detecting circuit")  
25 detects the presence of the object touching or adjacent to the surface one circuit, at least one adjacent circuit causes its light source to be illuminated.
5. An illuminating surface as claimed in claim 4, wherein the light source of the said at least one adjacent circuit is illuminated after a delay following the illumination of the  
30 light source of the said detecting circuit, thereby giving the effect that the area of the surface that emits light in the presence of the object spreads.

6. An illuminating surface as claimed in claim 4 or 5, wherein the light source of the said at least one adjacent circuit ceases to be illuminated prior to the light source of the said detecting circuit, thereby giving the effect that the area of the surface that emits light shrinks when the object is no longer touching or adjacent to the surface.

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7. An illuminating surface as claimed in any one of claims 4 to 6, wherein each detecting circuit is energisable from a power source when its sensor detects the presence of an object touching or in close proximity to the surface, thereby illuminating the light source of that circuit.

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8. An illuminating surface as claimed in claim 7, wherein current from the said detecting circuit leaks to at least one adjacent circuit, thereby energising the light source of the adjacent circuit.

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9. An illuminating surface as claimed in any one of claims 4 to 8, wherein each circuit comprises a transistor having a base terminal, the arrangement is such that the light source is illuminated when the transistor is conductive and wherein, when the sensor detects the object, the potential at the base terminal is changed, thereby causing the transistor to become conductive.

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10. An illuminating surface as claimed in claim 9, wherein each circuit is connected to the base of the transistor of the at least one adjacent circuit, whereby potential from a detecting circuit is applied to the transistor base terminal of the adjacent circuit, thereby changing the potential of the adjacent circuit transistor base terminal, allowing current to flow through the transistor of the adjacent circuit and causing the light source of the adjacent circuit to be illuminated.

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11. An illuminating surface as claimed in claim 10, wherein the detecting circuit is connected to the base of the transistor of the at least one adjacent circuit via a resistor such that the potential applied to the base of the transistor of the at least one adjacent circuit is less than the potential applied to the base of the transistor of the detecting circuit.

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12. An illuminating surface as claimed in any one of claims 1 to 11, wherein the sensors are switches that are closed by the object touching the surface.
13. An illuminating surface as claimed in any one of claims 1 to 12 in the form of a  
5 floor or wall tile.
14. An illuminating surface as claimed in any one of claims 1 to 13 connected to a power source.